

The business of biodiversity: framing the debate

A photo on the front cover of *Earthwatch* (December 1998) showed Hugh Possingham giving an address on the business of biodiversity. One of us (DL) rang Jane Gilmour, director of *Earthwatch*, to ask if the paper Hugh had delivered was going to be published. She thought not, and encouraged us to pursue the matter. Hugh Possingham duly accepted our invitation to write up his ideas for *Australian Zoologist*, which he then developed into a paper with Katriona Shea. Their paper was refereed, and two critical responses were sought, and the original authors were then invited to reply. Their paper and the debate make great reading and raise questions about what to research, how to go about it, and how to apply the outcomes. This edition of the *Australian Zoologist* explores this theme, as is shown in the selection of the title. Indeed, one of the important roles of the *Australian Zoologist*, as it is for many journals and journal editors, is to help frame the debate on critical matters of science, including its use and misuse in the broader community.

If Harry Recher is right, then the plight of Australian avifauna is worse than we have generally been given to believe. Here Recher's paper extends and exemplifies the ideas suggested by Possingham and Shea by critically reviewing what has been published and endeavouring to present a holistic picture of the field. Recher has chosen his research topic well. He has produced a model of the future based not on a formal modelling procedure, but one based on the insights he has gained by a lifetime of research and concern for our environment. It can be argued that Recher is not quite right, Stephen Garnett has a different point of view, but if the precautionary principle carries any weight, the case should be on disproving Recher, rather than dismissing him, or even worse, ignoring the future. Here the paper by Eby *et al.* makes the same point. Grey-headed Flying-foxes are now in low numbers in New South Wales and are declining. They are still a pest to some people, and being nocturnal and migratory makes them enigmatic, but they should not be allowed to slide towards extinction given the additional new evidence that this is what appears to be happening. These bird and bat papers raise another general observation. If one is concerned with conserving biodiversity, then focusing only on the formally-recognized threatened species may lead to skewed management decisions, and prevent one from seeing the overall picture, the long-term trends, the slide of non-threatened fauna, and the most economical path to recovery. The business of biodiversity requires that we stay alert to all facets of the matter, and lead intellectually rather than follow media stories or transient fashions, which Recher suggests is the lure of endangered species.

The just released *NSW Biodiversity Strategy* (NPWS 1999) complements the *National Strategy for the Conservation of Australia's Biological Diversity* (Commonwealth of Australia 1996) and their international precursor, the full text of which was published in 1992 in the *Australian Zoologist*. Fulfilling the objectives of these strategies could sustain a legion of researchers for a long time, so

selecting what to do first becomes a matter of importance. Here an examination of the pages of the *Australian Zoologist* offers some insights. We cover three topics: diversity of subject matter; diversity of talent to carry out the work; a willingness to communicate the findings.

This edition of the *Australian Zoologist* is full of vertebrates, but it shared the presses with a set of Transactions of the Royal Zoological Society devoted to *The Other 99%: The Conservation and Biodiversity of Invertebrates* (Ponder and Lunney 1999). Irrespective of the taxa preferred, the diversity of ways of examining the biological world is rich and rewarding. To fund only a couple of strands of this diversity may imperil the others, and the consequences for biodiversity may be telling in future decades. In this edition the subject matter moves from fish off the coast of northern New South Wales, to commercial use of finches in northwestern Australia, to the status of Spectacled Flying-foxes in northeastern Queensland, to a community and field based survey of Platypus in the Richmond catchment in northern New South Wales, to frog declines in Kosciuszko in southeastern New South Wales, to managing River Red Gums and waterbirds in inland New South Wales, to a detailed study of a dragon from inland Australia to a major set of review papers on aerial surveys for kangaroo management. However you look at the total display of papers, a striking feature for the editors is the range of material submitted, the diversity of topics and the different ways of looking at the subject matter.

The diversity of subjects reflects a diversity of talents. Some can see a diet and its behavioural implications in a pile of bones at the bottom of a Ghost Bat cave, others can link the precautionary principle to the management of Honey Bees, or are prepared to acknowledge the difficulties of finding bats with sonar in commercial forests, or are willing to search Koala scats for leaf choice, or use current knowledge to recommend management changes to river ecosystems, to alter a national attitude to bird status and their extinction prospects, or argue for managing flying-foxes now to avoid future costly recovery plans. The diversity of talent also emerges from the book reviews, especially the Whitley Awards.

One thing all the authors display is an ability to communicate. An editor's life is busy enough, but at least the material is presented as a thoughtful submission that is willing to undergo the demanding refereeing process. Much worse off is the organization that supports research that is never submitted for publication, that never undergoes the independent refereeing process and at best finishes up in a spiral binder in a library. As diversity is worth conserving, so are the workers who publish. Extra points can be awarded to those researchers who include the media, participate in public forums, apply their results through plans or strategies, especially if these are also published, and assist others, such as through participating as referees. We contend that publication is crucial for conserving biodiversity, and that the researchers who are prepared to go through the

publication process are worth rewarding when each year's funding is being considered.

When choosing your next research topic there is plenty of advice, a wealth of themes for intellectually satisfying exercise, a host of subject areas in the biodiversity strategies and some desperate problems in need of answers. There is not, unfortunately, a good procedure for selecting your topic. Read this edition of the *Australian Zoologist* and see if it helps. If you are on a committee that is selecting projects for funding, consider some of the principles outlined here. Ask yourself, could you stand independent criticism of your selection procedure. Do you expect the projects you fund to be independently criticized, do you reward applicants who are communicators, or are you so drawn to desperate problems that other considerations are down played? The business of biodiversity is a matter of great moment for zoologists. Our aim in the *Australian Zoologist* is to help frame the

debate by encouraging well-written papers that are imaginative, that display a sense of the past and the future, and spell out the link between research and conservation, provocatively if necessary, in the paper.

REFERENCES

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- National Parks and Wildlife Service, 1999. *NSW Biodiversity Strategy*. NSW National Parks and Wildlife Service: Hurstville, New South Wales.
- Ponder, W. and Lunney, D., 1999. *The Other 99%. The Conservation and Biodiversity of Invertebrates*. Royal Zoological Society of New South Wales: Mosman, New South Wales.
- Daniel Lunney, Lyndall Dawson and Bradley Law, Editors, June 1999

Some egregious editorial errors

When the previous edition of the *Australian Zoologist* was printed it was sent, as usual, directly from the printers, Surrey Beatty & Sons, to the Society's rooms at Taronga Zoo at Mosman. Ron Strahan was there to receive it. He then wrote me the following cheery letter, which was so entertaining that it offered me a way to apologize for some egregious editorial errors. The letter in full reads:

"Dear Dan,

I'm pleased to report that we received the 'Zoologist' late on Monday and had it packed by the end of Tuesday, ready for posting by Arthur [White] on Wednesday morning (today).

I haven't read it through yet but I have noticed some errors on the cover, *Wallabia* and *Vespedalus* are misspelled [sic] and, in the review of the 'Incomplete Book' [by Pamela Condor and Ron Strahan], so is whimsy [sic] and, amusingly, 'eminent'. Or was it the intention to say that I show some promise of becoming a zoologist? [By way of explaining this error, Ron pushed a note to me at the following council meeting, which said: "I'm proud to be an imminent zoologist!"]

Heigh ho! We editors strive against the second law of thermodynamics but the scales are weighted in favour of chaos.

Yours, Ron".

I still had not seen the printed edition of the journal, but I did have the fax of the cover sent to me from the printers to check. Yes, the errors were there. I noticed yet another scientific error on the cover. The specific name of *Falistrellus tasmaniensis* had been misspelt. How did I miss these errors? There is an easy but disquieting explanation. The cover reflects the contents, and the photos and their captions are from various papers in the edition. I had requested a "copy and paste" procedure for the captions of the photos selected for the cover. Unfortunately, the captions had been retyped, but I did not recognize that this had happened, so I simply checked the fax to see whether each caption and photo was correctly matched. Neither did I check the title of the theme edition, which was also to be a copy

and paste of the title of the editorial. It used the term "biodiversity" and not "diversity" as appears on the cover.

A few of my mammalogist colleagues saw the errors immediately, but not as many people as I feared. Those who commented were all editors. Perhaps only editors see such things, or only editors offer criticism as a habit, a constructive habit I believe. A senior colleague who works on invertebrates could not see an error, so maybe this is a taxon-specific issue. Nevertheless, they are egregious errors, they should never have slipped passed my red pen, and they confirm the need to be ever vigilant, especially with the cover.

An error also occurred in "*Is the biodiversity tail wagging the zoological dog?*" In the plenary discussion section at the end of the symposium, certain verbal exchanges on page 70 were attributed to Peter Prineas which were not his, and we would like to extend an apology to him for this error. This, I trust, has set the record straight.

There are lessons to be learnt here. Among them is the need to stay in touch with the printers, who apologized in this case of the cover, but the real point is to know who is doing the typesetting and the checking. A change in personnel, even for a week, can lead to minor changes in style and procedures. The responsibility lies with the editor to check, whatever role others may have had in contributing to the problem. The value of having colleagues who will venture constructively critical comments is as vital for editors as it is for authors of scientific papers. This is where the council of the Royal Zoological Society is crucial to the survival and continuity of the journal, as well as the transactions, and indeed any of the Society's activities. Editorial errors are picked up quickly, and the quality of the journal and the transactions has an assured maintenance procedure as editorial eyes fade, such as when reading faxes. As a ratio of words to errors, the error rate is very low, so you can read this edition of the *Australian Zoologist* confident that the fascinating paper you are reading is likely to be reasonably error-free. If not, please let me know.

Daniel Lunney